Figure 1

Method A

N-α-Fmoc-Lys (N-ε-Boc) (1)

N-α-Fmoc-lysine (2)

N-α-Fmoc-lysine (2)

N-α-Fmoc-Lys (N-ε-biotin) (3)

Figure 1 Continued

Method B

N-ε-biotinyl lysine   N-α-Fmoc-Lys (N-ε-biotin)

Figure 2

Method A.

3)   N-α-Fmoc-Lys (N-ε-biotin)

2)   N-α-Fmoc-lysine

1)   N-α-Fmoc-Lys (N-ε-tBoc)

Time (minutes)

Method B.

N-α-Fmoc-Lys (N-ε-biotin)

Time (minutes)
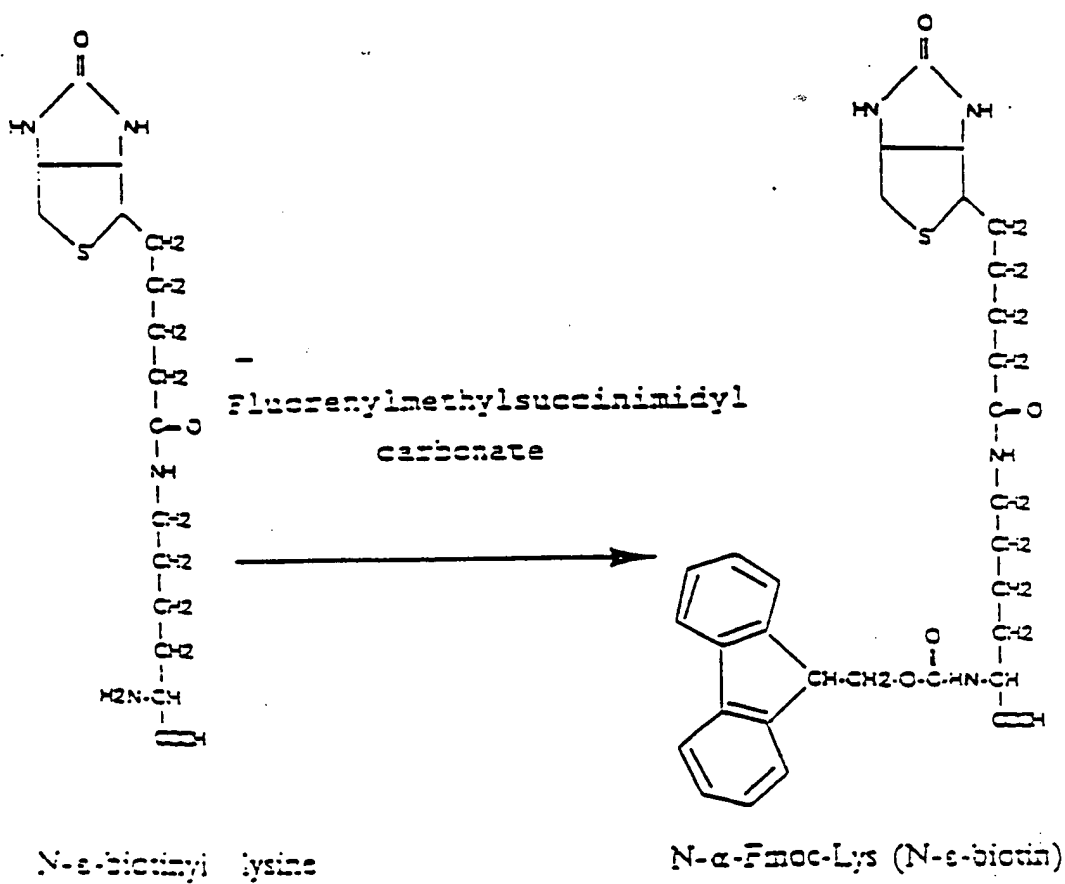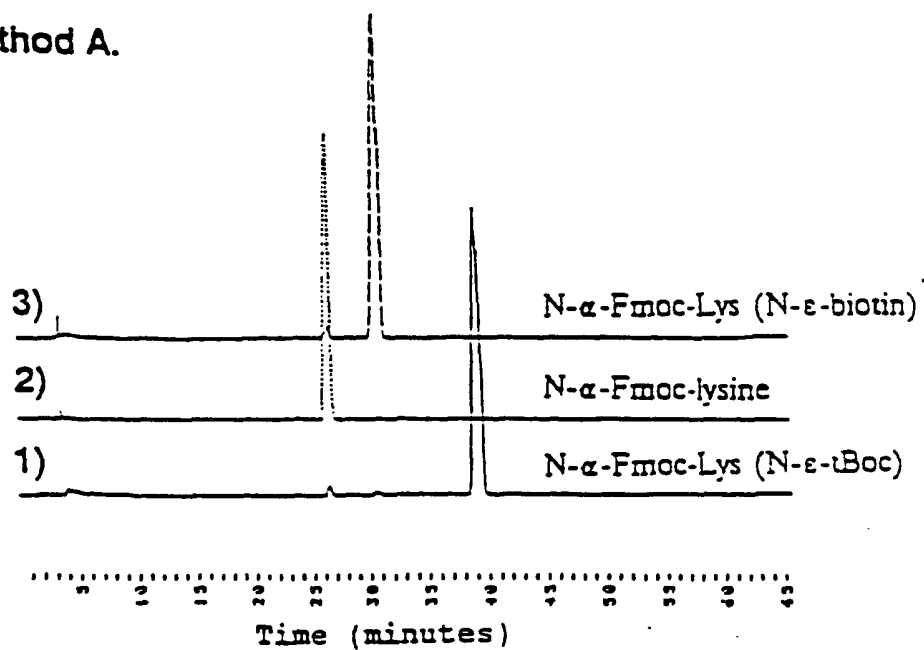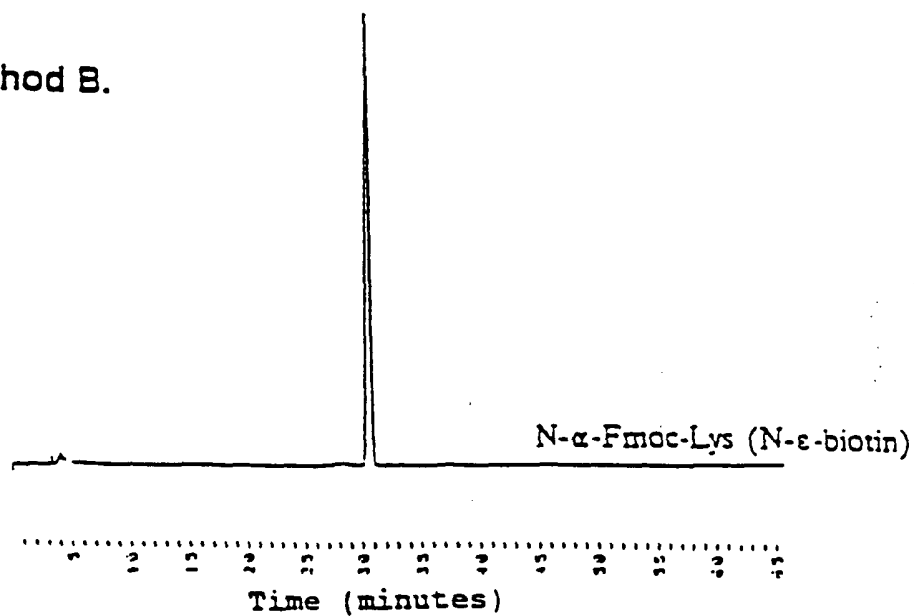
4/28
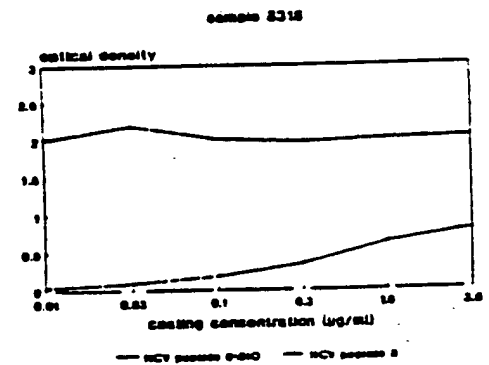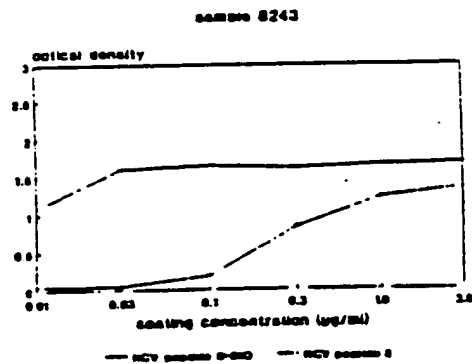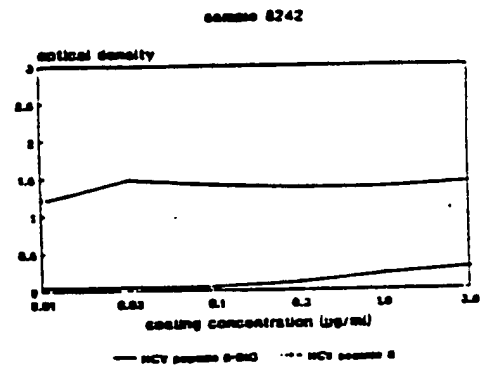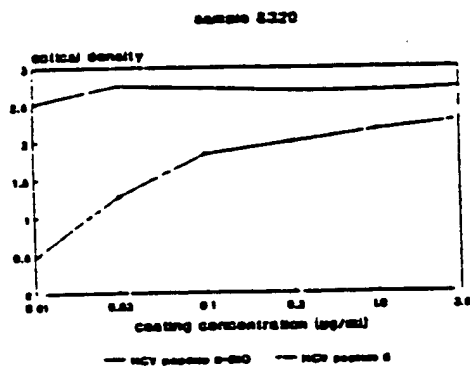
Figure 3a

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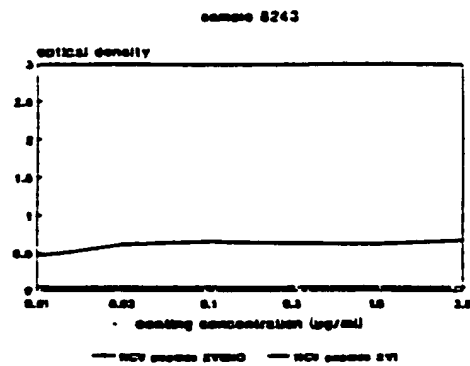### Figure 3b

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Figure 3c

Figure 4

HCV peptide II-BIO

HCV peptide XI-BIO

HCV peptide XVI-BIO

Figure 5

A.
```
          Lys
       Gly    Leu
      Ser      Ile
      Cys——————Cys
      Gly
      Trp
      Ile
      Gly
      Gly
      Gly
      Bio
```

B.
```
          Lys
       Gly    Leu
      Ser      Ile
      Cys——————Cys
      Gly      Gly
      Trp      Gly
      Ile      Lys(Bio)
```
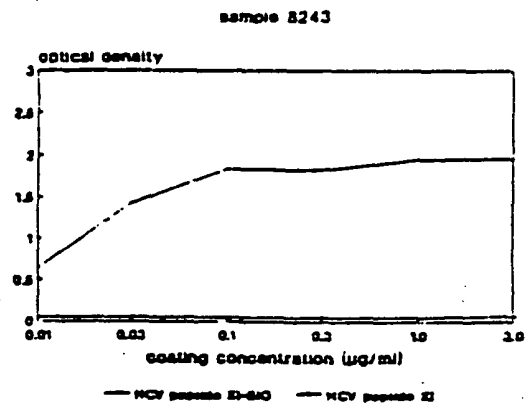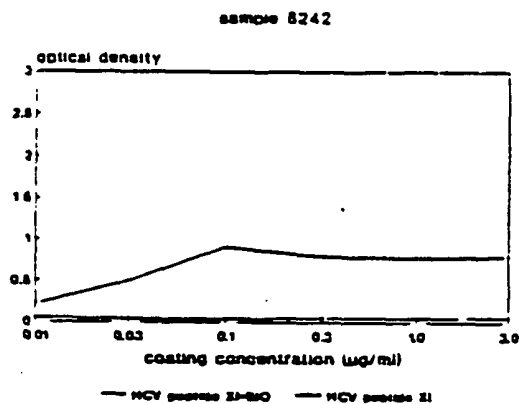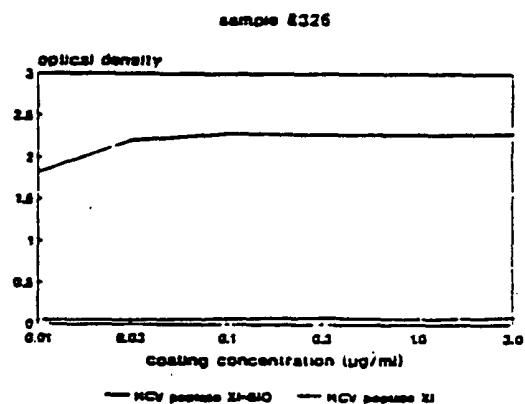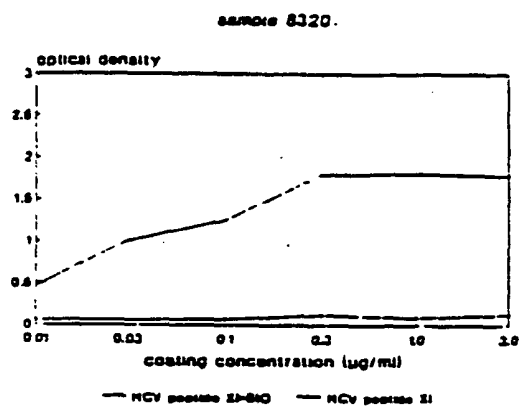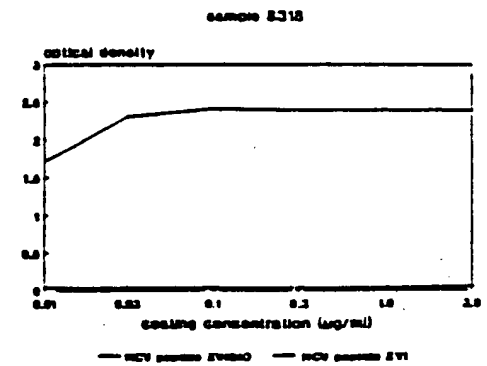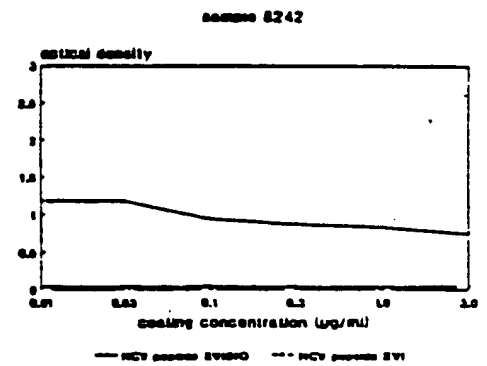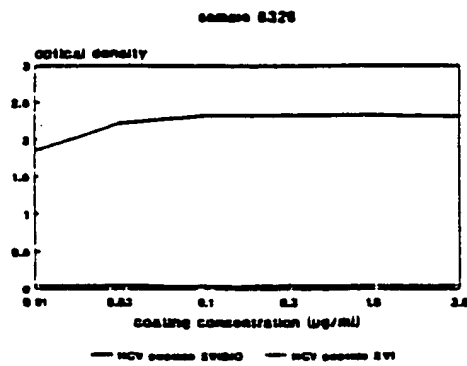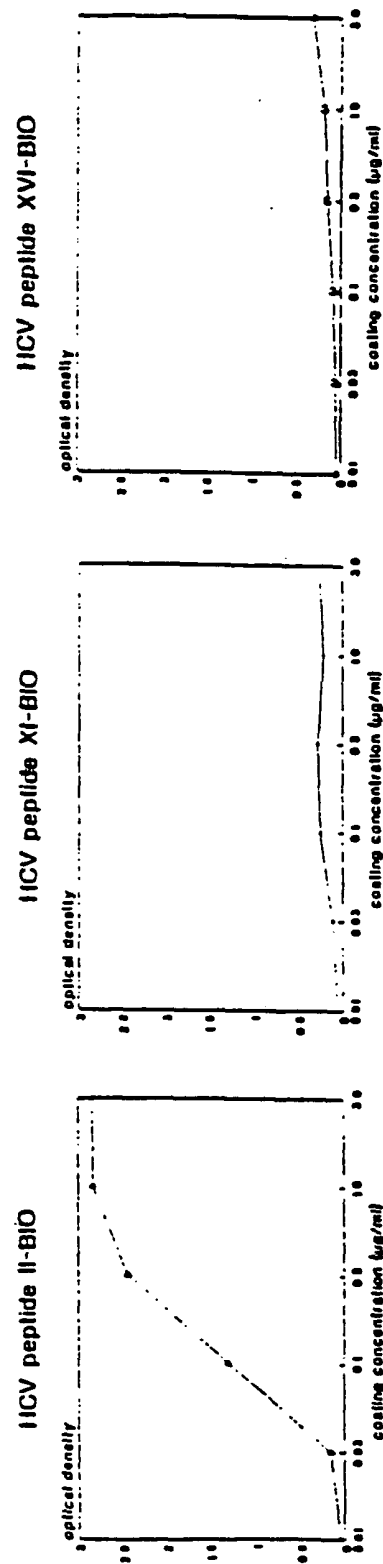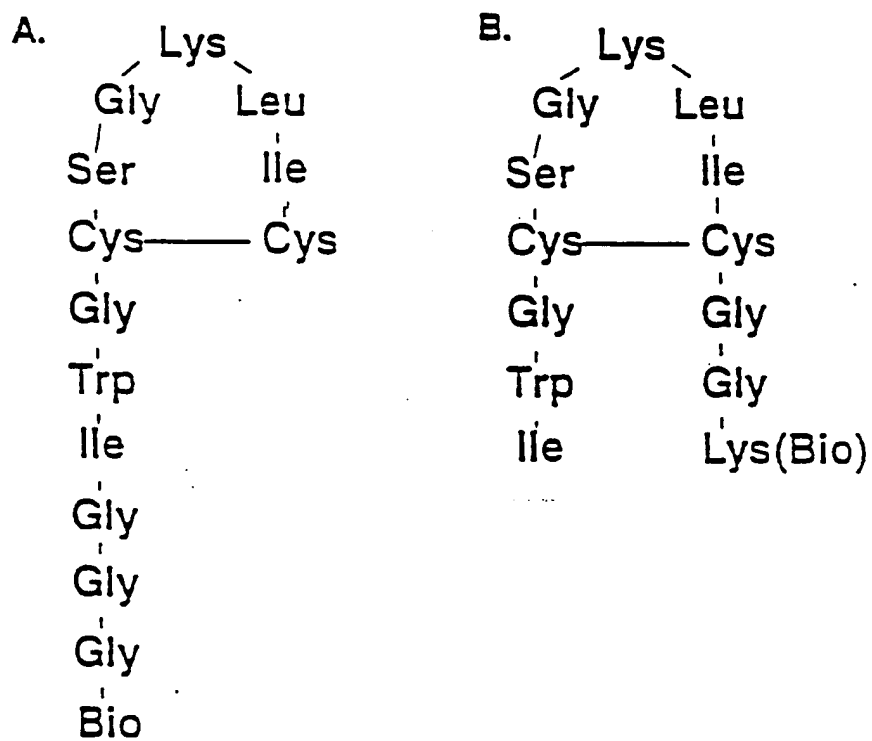
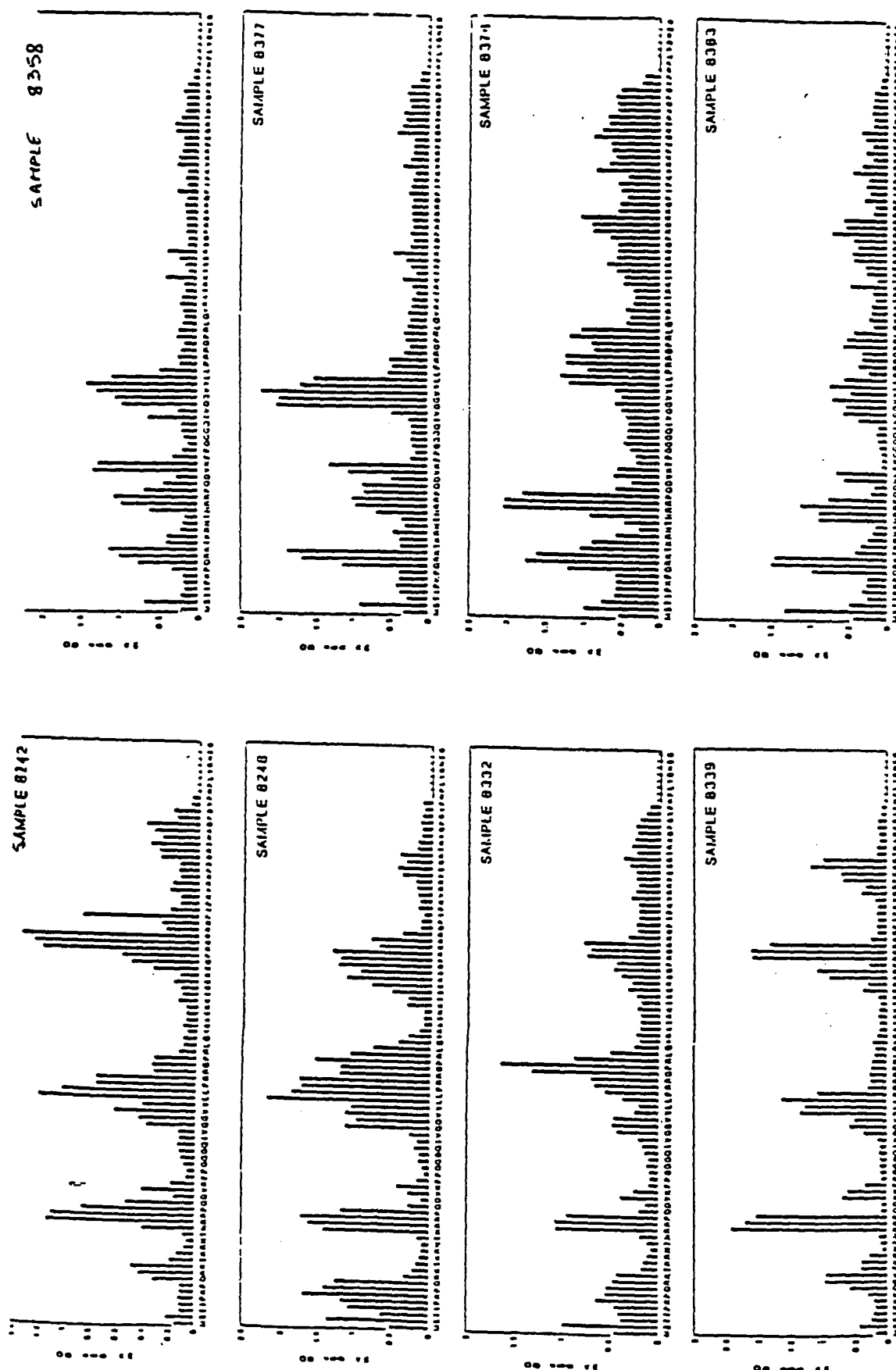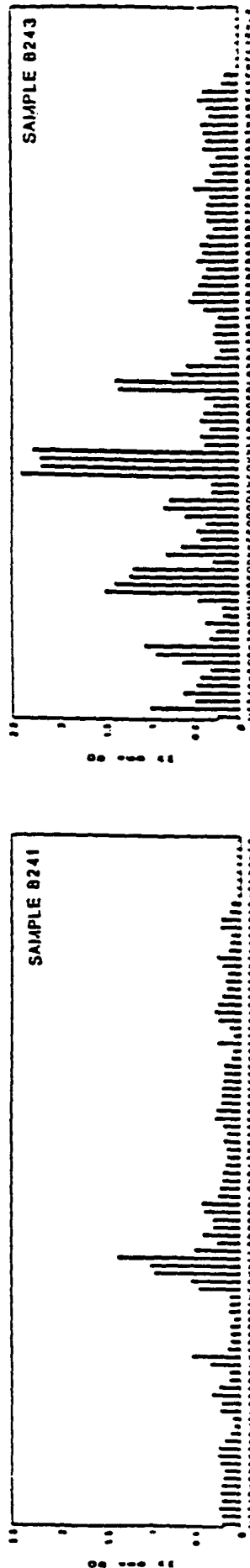N-terminally biotinylated TM peptide   C-terminally biotinylated TM peptide

~ Figure 6a

HCV CORE PEPTIDES (1-13)

Figure 6a (continued)

HCV CORE PEPTIDES (1-13)
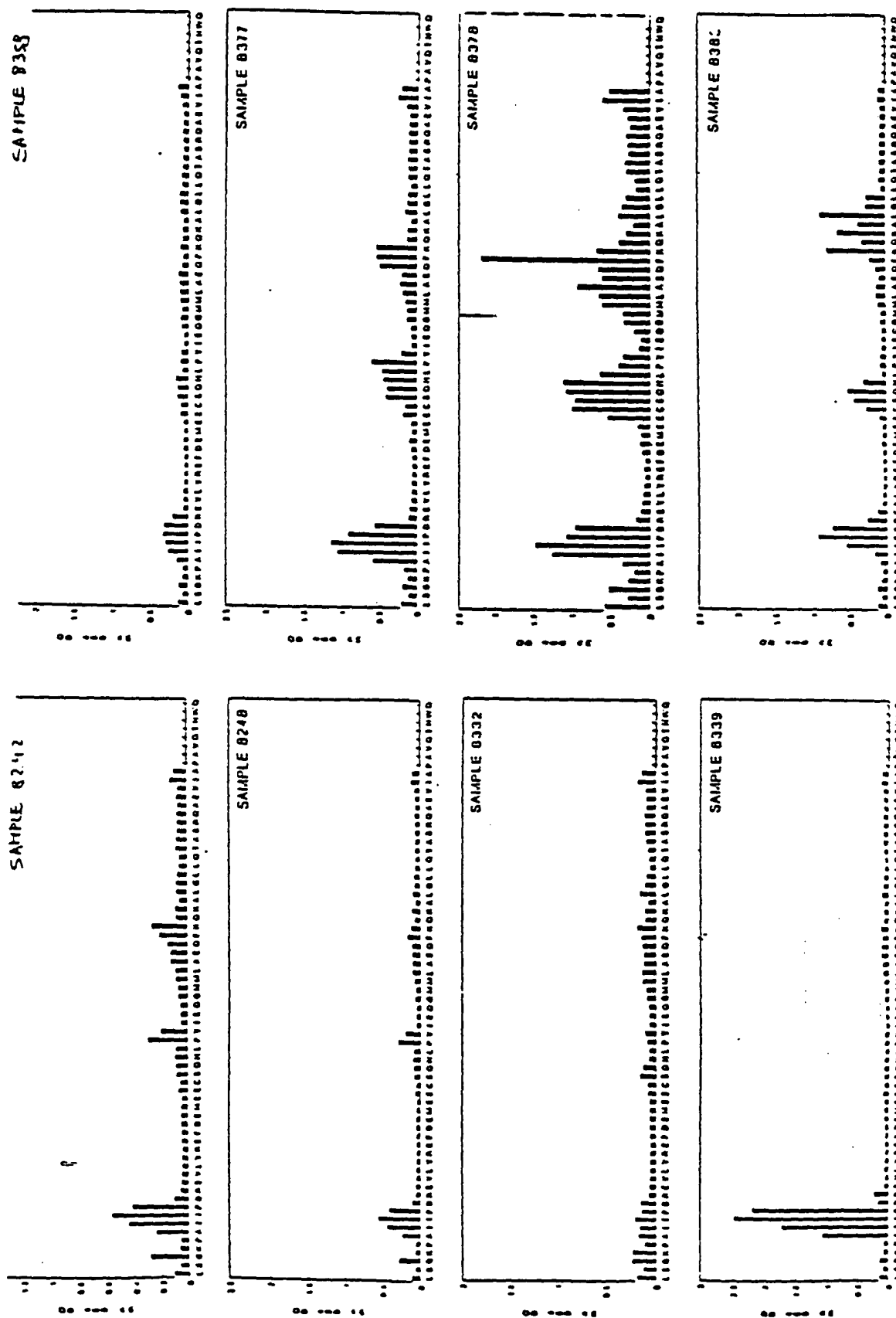
Figure 6b

HCV NS4 PEPTIDES (1-9)

Figure 6b (continued)
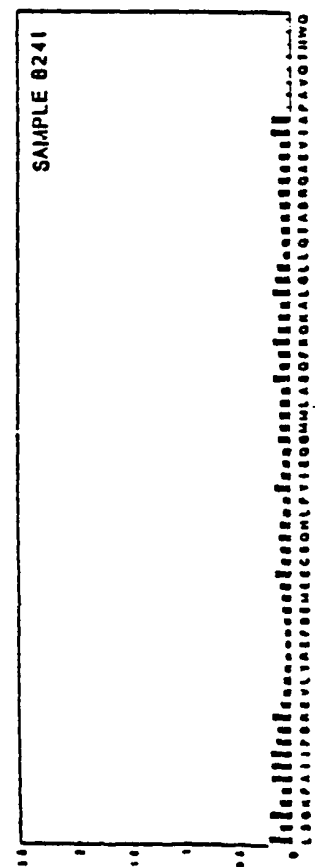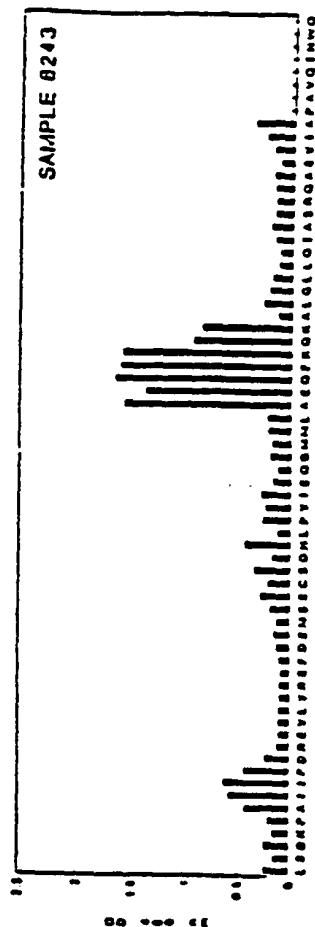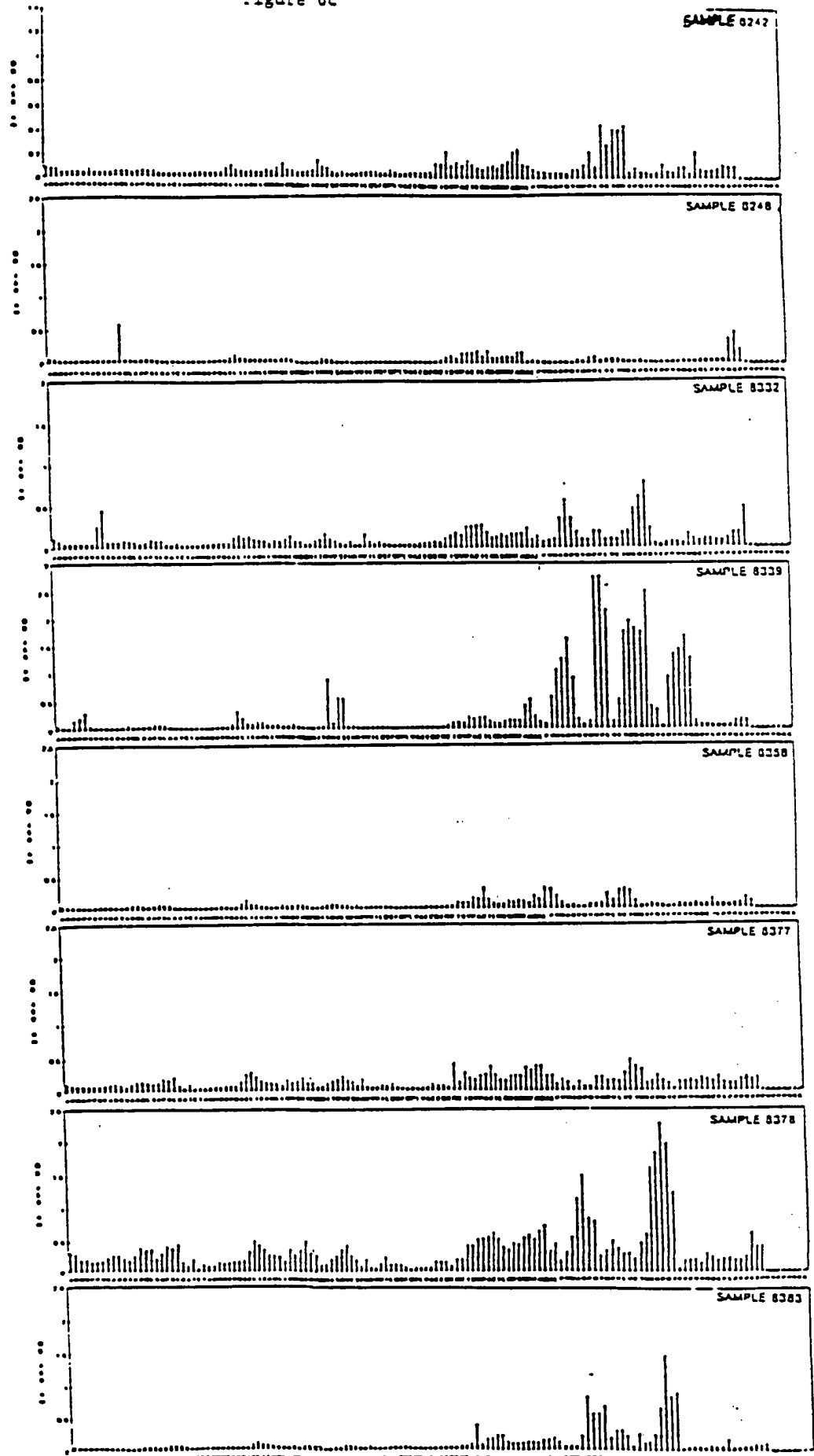HCV NS4 PEPTIDES (1-9)
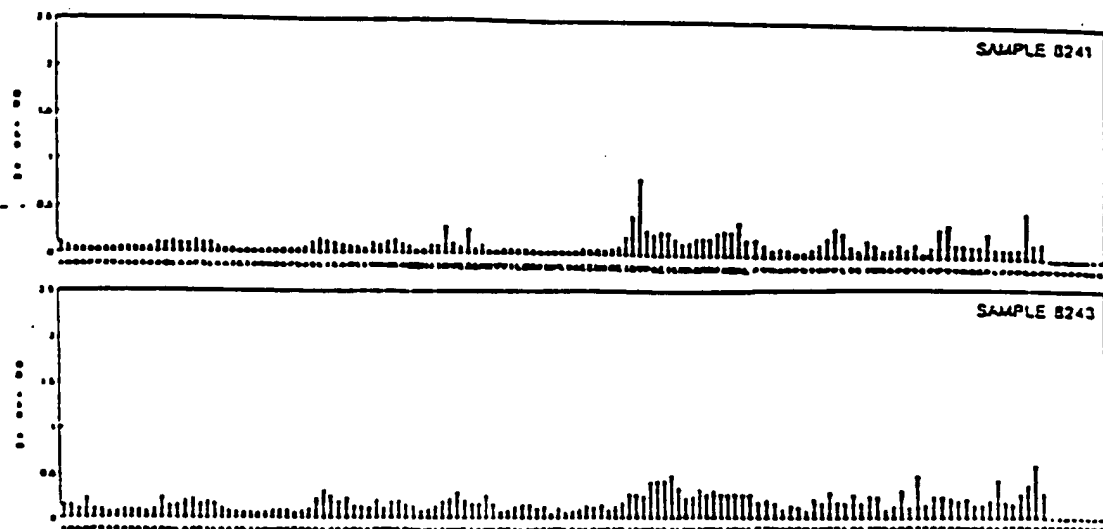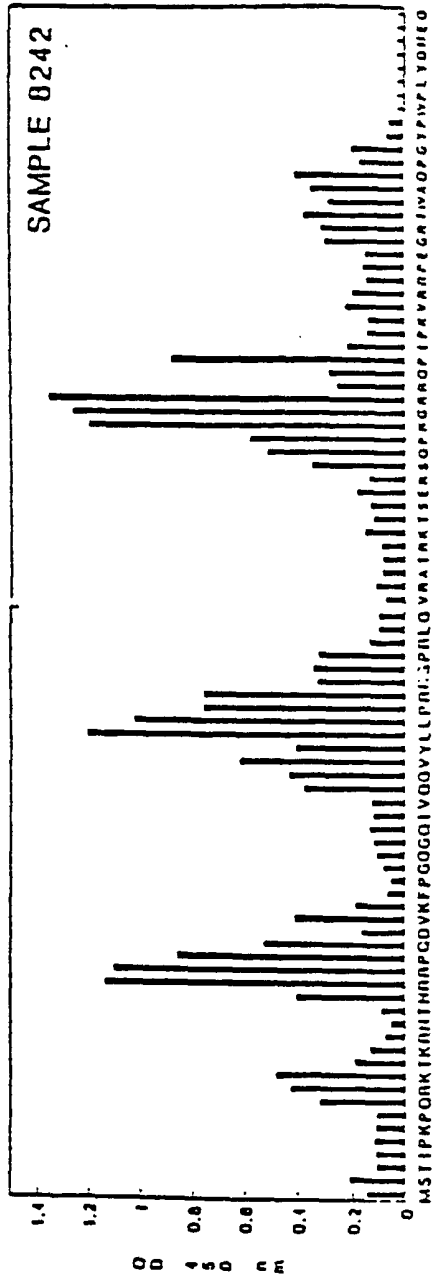
Figure 6c

Figure 6c

HCV NS5 PEPTIDES (13-33)

Figure 6c (continued)

Figure 7a

SAMPLE 8242

Figure 7b

SAMPLE 0378

Figure 7c

SAMPLE 0339

a: High intensity control
b: Low intensity control
c: Medium intensity control
d: Peptide XXg-1, unbiotinylated
e: Peptide XXg-2, unbiotinylated
f: Biotinylated peptide XXg-1: streptavidin complex
g: Biotinylated peptide XXg-2: streptavidin complex

Figure 8
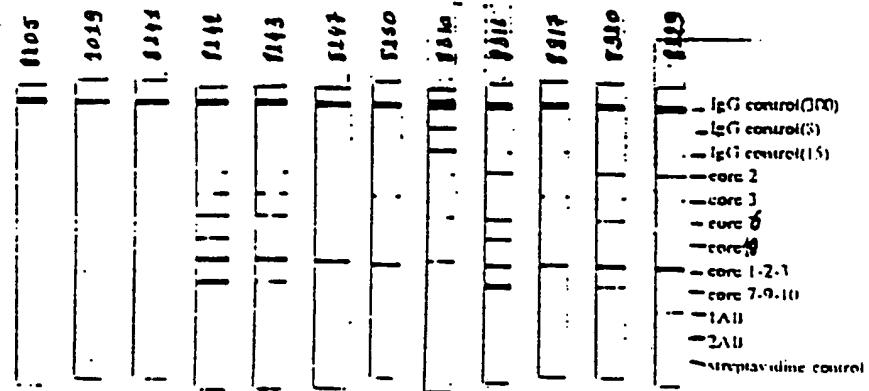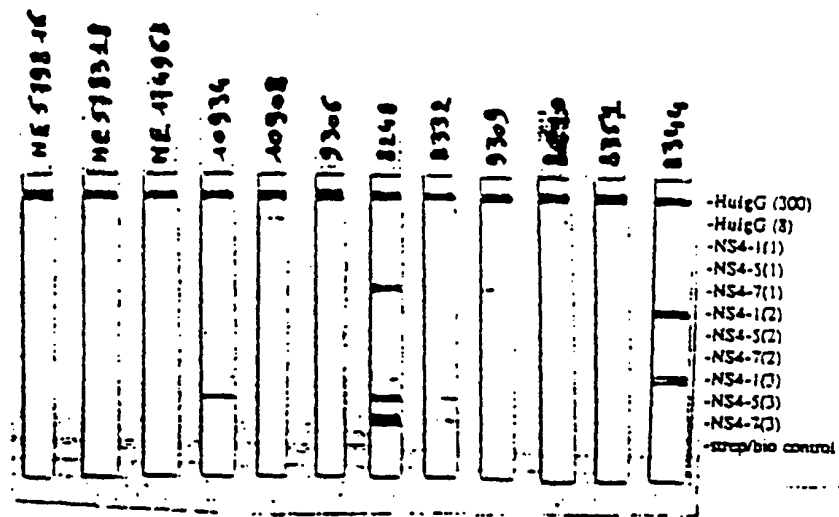
Figure 9

Figure 10

Peptide	Sequence
BS-4 a	G A I V A I P I M S G L V P S I I D I V
BS-4 b	V P S I I D I V N I I P A I I S P G A I
BS-4 c	A I I S P G A I V V G V V E A A I I R R
BS-4 d	V C A A I I R R I V G P G E G A V O W M
BS-4 e	G E G A V O W M N R I I A I A S H G H H

Figure 11

Peptide	Amino Acid Sequence

Epi-152   :Bio- G G - I P D R E V L Y R G G K K P D Y E P P V G G R R P O D V K F P

           NS4   NS5   Core

         epitope 1   epitope 5   epitope 2

Epi-3383A   :Bio- G G - W A R P D Y N P P G G O F K O K A L G L G S G V Y L L P R R G

           NS5   NS4   Core

         epitope 3   epitope 3B   epitope 3A

Epi-482A6   :Bio- G G - R G R R O P I P K G G S O H L P Y I E O S G P V V H G C P L P

           Core   NS4   NS5

        epitope 4B   epitope 2A   epitope 6

Figure 12
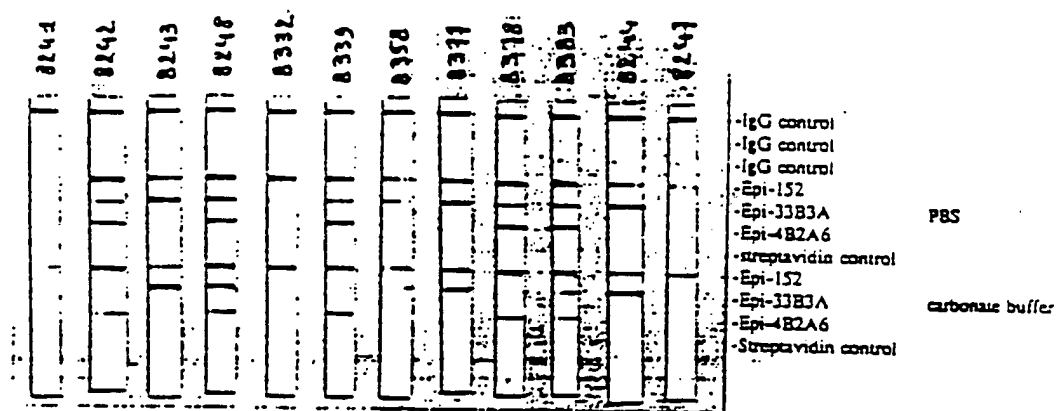
Figure 13

Figure 14

Figure 15

Mixotope Synthesis Strategy.

Cleavage and side-chain deprotection
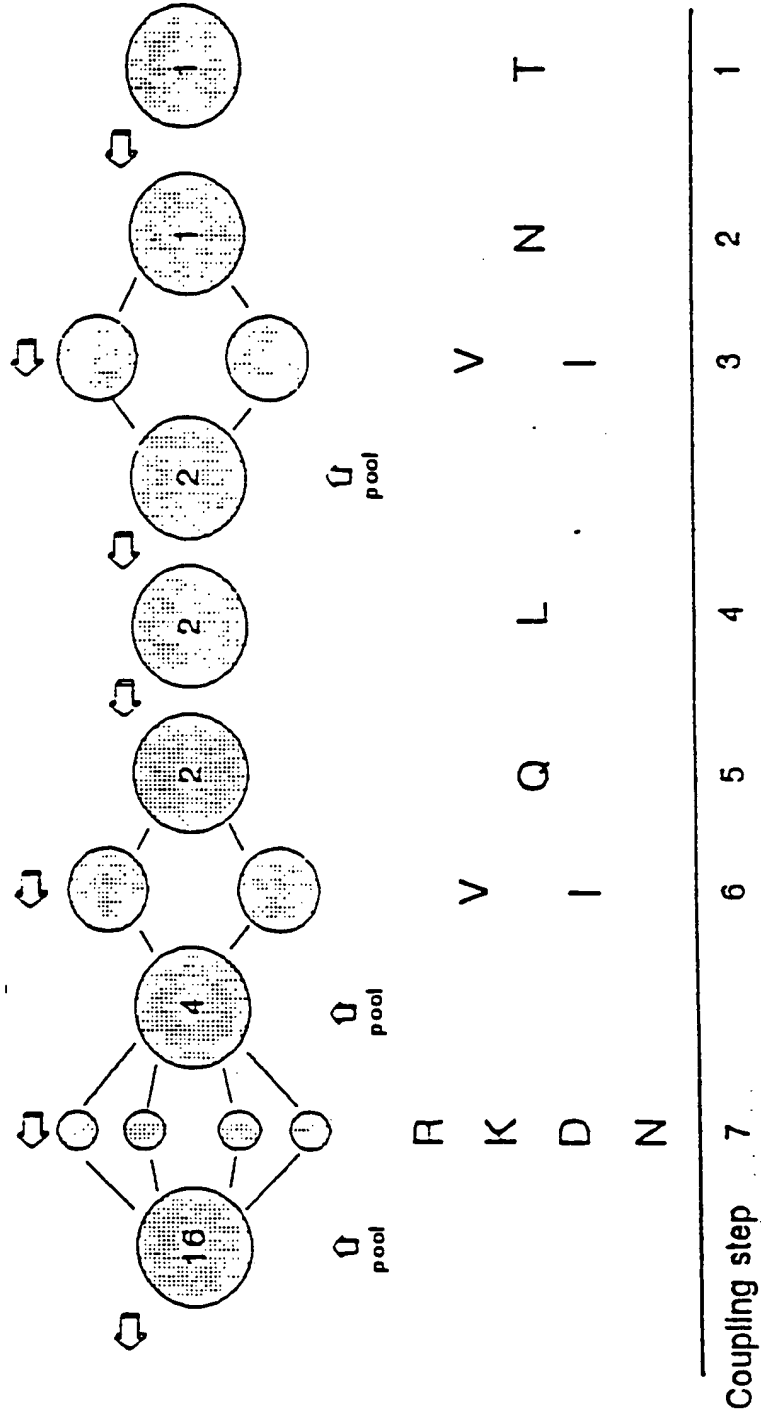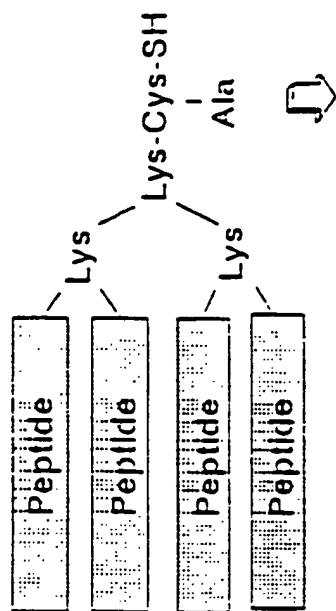
Oxidation and dimerization
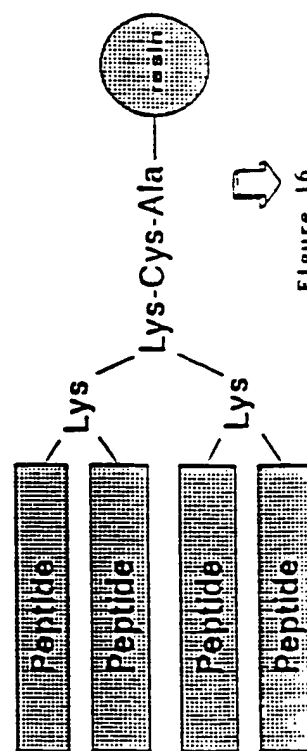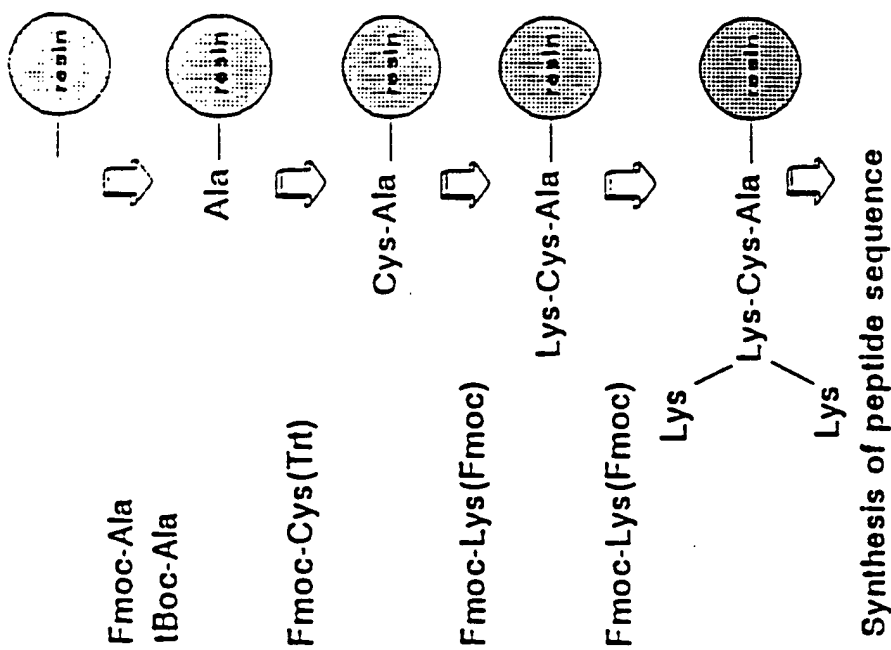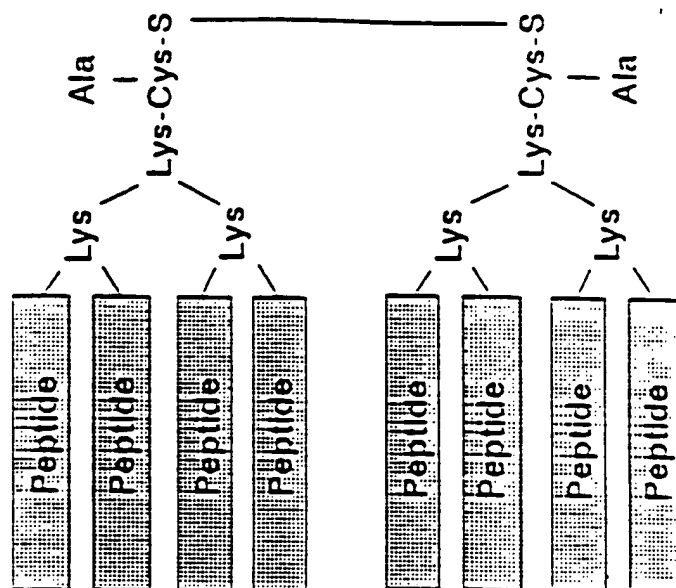
Fmoc-Ala
tBoc-Ala

Fmoc-Cys(Trt)

Fmoc-Lys(Fmoc)

Fmoc-Lys(Fmoc)

Synthesis of peptide sequence

Figure 16

Figure 17

FIGURE 18

Fig 18